

Motor Intelligence

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1. Introduction

Speaking of motor intelligence is not easy, because it is a term that has come to attention only in the last few years. It has always spoken of motricity in a general sense, but associating the movement with what we consider very general skills and crucial as intelligence is, in a certain sense, a very recent work hypothesis but, the duality that we carry with us between spirit & body affects us still fairly heavy. I would try to bring all attention in the light of the latest scientific acquisition, and with a multilateral approach, those are our beliefs on the relationship that binds between the movement and the development of certain neuro-cognitive functions, on the experience basis of a longitudinal started about 15 years ago (Eurocamp Cesenatico), on a number of thousands of subjects, male and females in the age of development.

2. Discussion and conclusion

The anthropological approach allows to observe during a period of time which lasted a few million years the evolution (phylogeny) of the human species was induced and characterized by need-ability to interact effectively with the natural environment, thanks to progressive adjustments (change) as a function of a better survivability, Finding sources of livelihood and solving problems related to seek shelter and security have been a powerful impetus to activation processed adaptive motivation that have been invested especially the neuro-cognitive functions and in a more limited way, those physical education.

In terms of phylogenetic we notice that a whole series of adaptive processes were held effectively in order to allow the interaction species environment. Currently, after the informatics revolution, we find ourselves or spend several hours in a posture similar to the initial one, but in a strongly conditions of slow movement strongly present in our way of living.

By neuro-cognitive-motor (executive functions) point of view the human species have developed a number of functions extremely effective as a function of survival. One can speak of a form of intelligence able to solve situational problems and devices solutions to make it less precarious future. All the perceptual system has adapted the primary need to gather information (body sense) in the situational context and to make more effective this operation it's equipped with a filter, the attention which is allowed to consider only the significant aspects in the context. This has made it very efficient and economical neuro-cognitive function in order to take the decision in the shortest possible time and put into action the effector: *Fight* or *Fly*.

Fight or *Fly* for a long time it has been the only possible alternative for the individual in action or to solve a situational problem.

Perceiving and understanding have, as its characteristic attribute meaning in this context, in this situations, understanding what it means depending on the purpose of the presence of the subject

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here and now, therefore decide, find a solution to the problem and take action (finalized movement).

The movement aims requires, once finished the task the ability to evaluate the result from the action to the objective that has been placed, if it has been achieved successful or if the result is not entirely satisfactory. Therefore evaluate using all the feedback online, during the action and the result of the action carried out. This is the only conditions that allow learning in any form, through the improvement of neuro-cognitive processes trends. So it is a complex mechanism of interactions that during millions of years has it characterized the activity of the species through continuous adaptations that have perfected the human biological system.

If such a complex process, it's observed on the individual then a very short period of time, it is seen that failing a qualitative and quantitative interaction with the environment, and whole series of neuro-cognitive functions are developed in a computer and deficient with the result. This hardly has an opportunity to transfer them in another context.

This involves, finally, a limitation to the ability to learn. Considering, at one somatic development is not optimal and a failure to adapt supply to an existential poor condition, which has as overweight and consequences obesity, appears a highly disturbing scenario.

What to do? With what methodological approach to act? A healthy as a prudent pragmatism must lead them to induce and guarantee to provide individuals in childhood age that have matured over such a long period, it is activated in an effective manner and with regularity.

So if we attribute to the concept of understanding the meaning of ability to resolve situations and/or problems, because it is this uniqueness that has characterized the evolution of the human species, even today the very existence poses situational problems requires the individual situational choices that cast their outcomes in a long time (existential choices or medium or short period (fraction of a second)

Structure of movement

Understanding the context is a prerequisite to effective decision making. It's important to understand what's happening, if there is an error in the understanding of what happens is taking the wrong decision and inadequate action in a traffic situation occurs accident.

In an extreme synthesis the executive context function in:

- I perceive, gather information through the senses, attention directs and filters
- I understand, I attribute a meaning to what is happening
- In decide, I hypothesis a solution and I project into the future, so it's prefigured that may or will happen depending on the decision that I intend to take (it deals with anticipatory functions)
- I act, I put into action the body to achieve the purpose;
- I control and rate the action during the actual (feedback) and the result;
- I learn, I memorize and intact in the framework of cognitive reference.

Learning

Each form of learning is the result of an effective performance of all these declined processes in various contexts. What does learning means? Internalize every experienced integrating and modifying permanently it's cognitive framework. If these processes do not occur optimally learning is defective or problematic and can determine failure. Because of this it could create demotivation, abandonment.

- The human existence, consequently, is characterized of situation to which we must give a solution.

Each movement has a purpose, when and how to achieve it!!!

Key words: Motricity; learning; physical education; martial arts; combat sports.